

ABSTRACT OF THE DISCLOSURE

There is disclosed a method of fabricating TFTs using a silicon film crystallized with the aid of nickel. The nickel is removed from the crystallized silicon film. The method starts with maintaining nickel in contact with the surface of an amorphous silicon film. Then, a heat treatment is performed to form a crystalline silicon film. At this time, nickel promotes the crystallization greatly, and nickel diffuses into the film. A mask is formed. A silicon film heavily doped with phosphorus is formed. Thereafter, a heat treatment is performed to move the nickel from the crystalline silicon film into the phosphorus-rich silicon film. This reduces the concentration of nickel in the crystalline silicon film.